BUREAU OF INFORMATION & TELECOMMUNICATIONS

BACKUP AND RECOVERY PLAN

MS SQL SERVER

The State of South Dakota

Revisions & Addendums Log:

Instructions:

Changes and Addendum can be sent to:

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The following Table shall reflect all revisions made to this document:
(Insert new rows at end as needed.) (*The information below is only an example*)

DATE	DESCRIPTION	AUTHOR
28 March, 2002	Filled in for MS SQL Server	Dave Bishop
29 April, 2002	Modified opening paragraph. Updated issue section. Added link for app to backup mapping.	Dave Bishop
5/1/02	Updated links to new location for procedures	Dave Bishop
5/10/02	Moved issues to new section per Jim Douglas	Dave Bishop
12/30/2002	Updated tape write times	Dave Bishop
3/22/2005	Updated to reflect current practices	Art Lorenzini
1/18/2006	Updated retention info	Dave Bishop

I. Introduction

This document details the processes whereby the South Dakota Bureau of Information & Telecommunication insures the protection of its client's data assets from loss due to hardware and software failures or human error.

Backup and Recovery (B&R) is the combination of manual and machine procedures that can restore lost data in the event of hardware or software failure. Routine backup of databases and logs of computer activity are part of a backup & recovery program.
Backups usually copy data to different portable media in order to provide off-site storage to complement Business Continuity or Disaster Recovery Planning (DRP). Although DRP does incorporate data backup, it also includes alternate hardware, facilities, and telecommunications. Conventional B&R, on the other hand, uses the original hardware, facilities, and telecommunications. Under Data Center policy BIT will be responsible for all storage and maintenance of the data. Off-site storage of Campus backup data will be arranged with **Records Management**

II. Platform Summary:

A. Standard - With Transaction Log Backups

Backup

- These backups are performed for all user databases on each of the Microsoft SQL Server 7.0 and 2000 servers, which are maintained by the Database Administration Group.
- Full hot backup written to disk Monday through Sunday taken between 6:00 PM and 12:00 AM. These backups are written to tape Monday through Sunday at 12:00 AM
- Transaction Logs are initialized on Monday mornings at 4:00 AM. Appends to disk are done from 6:00AM to 7:00PM Monday, Tuesday, Wednesday, Thursday, and Friday which is the standard practice. There are some database that append to disk every hour between 12:01 am and 11:59 pm Monday, Tuesday, Wednesday, Thursday, and Friday. These are on ESPR1SQL7\I1. The logs are written to tape at 7:00 PM Monday through Sunday.
- Tapes are moved off site every business day.
- Tape retention for daily backups is 60 days. Once a month backups are retained for 12 months.

Restore

- Using the active log – Restore all transactions for a database up to the current point in time
- Using disk backups – Restore all transactions for a database to within one hour Monday through Friday between 5:00 AM and 6:00 PM. For other hours to the most recent full backup.
- Using onsite tape – Based on the most recent write to tape (could be 24-hour latency) restore all transactions for a database to within one hour Monday through Friday between 5:00 AM and 6:00 PM. For other hours to the most recent full backup.
- Using offsite tape – Restore all database transactions to the most recent full backup plus the most recent log append written to tape. This could be up to 24 hours old depending on the most recent transfer of tape to storage.

B. Standard – Without Transaction Log

Backup

- Full hot backup written to disk Monday through Sunday taken between 6:00 PM and 12:00 AM. These backups are written to tape Monday through Sunday at 12:00 AM
- Tapes are moved off site every business day.

- Tape retention for daily backups is 60 days. Once a month backups are retained for 12 months.

Restore
- Using disk backups – Restore all transactions for a database to the most recent full backup typically 24 hours old.
- Using onsite tape – Based on the most recent write to tape (could be 24-hour latency) restore all transactions for a database to the most recent full backup.
- Using offsite tape – Restore all database transactions to the most recent full backup written to tape. This could be from up to 24 hours old depending on the most recent transfer of tape to storage.

C. System

Backup
- These backup are for the following system databases: master, model and msdb. Pubs and Northwind are sample databases that are included on the install of SQL Server 7.0 and are not backed up.
- Full hot backup written to disk Monday through Sunday taken between 6:00 PM and 12:00 AM. These backups are written to tape Monday through Sunday at 12:00 AM
- Tapes are moved off site every business day.
- Tape retention for daily backups is 60 days. Once a month backups are retained for 12 months.

Restore
- Using disk backups – Restore all transactions for a database to the most recent full backup typically 24 hours old.
- Using onsite tape – Based on the most recent write to tape (could be 24-hour latency) restore all transactions for a database to the most recent full backup.
- Using offsite tape – Restore all database transactions to the most recent full backup written to tape. This could be from up to 24 days old depending on the most recent transfer of tape to storage.

III. Software Components for Backup

Backups for this platform may include:
- MS SQL Server Data files
- MS SQL Transaction Logs

IV. Application Inventory

For Application Inventory See DP01Calllog.

V. Procedures:

The following links provide details about Backup and Recovery procedures.

Create Backup for MS SQL Server 7.0
\\ESPR1FS05\Bitwork\Data Center\BIT Backup - Recovery Plan\Backup & Recovery Wintel Server Platforms\Backup & Recovery SQL Server\Refs\Create Backup MS SQL 7.doc

Monitor Backup for MS SQL Server 7.0

\\ESPR1FS05\Bitwork\Data Center\BIT Backup - Recovery Plan\Backup & Recovery Wintel Server Platforms\Backup & Recovery SQL Server\Refs\Monitor Backup MS SQL 7.doc

Restore from Backup for MS SQL Server 7.0
\\ESPR1FS05\Bitwork\Data Center\BIT Backup - Recovery Plan\Backup & Recovery Wintel Server Platforms\Backup & Recovery SQL Server\Refs\Restore Backup MS SQL 7.doc

Create Backup for MS SQL Server 2000
\\ESPR1FS05\Bitwork\Data Center\BIT Backup - Recovery Plan\Backup & Recovery Wintel Server Platforms\Backup & Recovery SQL Server\Refs\Create Backup MS SQL 2000.doc

Monitor Backup for MS SQL Server 2000
\\ESPR1FS05\Bitwork\Data Center\BIT Backup - Recovery Plan\Backup & Recovery Wintel Server Platforms\Backup & Recovery SQL Server\Refs\Monitor Backup MS SQL 2000.doc

Restore from Backup for MS SQL Server 2000
\\ESPR1FS05\Bitwork\Data Center\BIT Backup - Recovery Plan\Backup & Recovery Wintel Server Platforms\Backup & Recovery SQL Server\Refs\Restore Backup MS SQL 2000.doc

VI. Issues and Concerns